

Response to Comments

Joint Outfall System Los Coyotes Water Reclamation Plant Tentative NPDES Permit

This Table describes all significant comments received from interested persons with regard to the above-mentioned tentative permit. Each comment has a corresponding response and action taken.

Commenter	#	Comment	Response	Action Taken
Comments received from Joint Outfall System on May 4, 2015				
Joint Outfall System (JOS)	A-1	<i>The chronic toxicity limits are inconsistent with State Water Board precedent and premature until the State Water Board adopts its promised statewide toxicity policy.</i>	<p>The Los Coyotes Water Reclamation Plant (WRP) tentative National Pollutant Discharge Elimination system (NPDES) permit is written consistent with the direction provided by USEPA's Formal Objection Letter regarding the Pomona and Whittier Narrows WRP permits, dated September 4, 2014. The Regional Water Board has concluded that the numeric effluent limitations for chronic toxicity in these permits are required by the Clean Water Act and federal regulations; are feasible, appropriate and necessary to maintain the water quality standard in the receiving water; and that existing State Water Board precedent does not restrict the Board's authority to impose numeric effluent limitations where the Regional Water Board has determined that numeric limits are feasible and appropriate based on current circumstances and information.</p> <p>The narrative effluent limits with accelerated monitoring and toxicity reduction evaluation triggers that have been used in NPDES permits in this Region have not adequately addressed toxicity. The narrative approach is an oversight-driven model that essentially requires the Regional Water Board to manage dischargers' efforts to reduce and control toxicity and lack incentives for permittees to address the toxicity in a timely manner.</p> <p>The State Water Board has declined to make a determination</p>	None necessary.

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			<p>regarding the propriety (and feasibility) of numeric effluent limitations for chronic toxicity. (See WQ Orders 2003-0012 and 2003-0013). The State Water Board declared in the 2003 Orders that the issue would be better addressed through a modification to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The State Water Board replaced the numeric effluent limits for toxicity in the permits at issue with narrative effluent limits (i.e., a series of actions performed by the permittee intended to address effluent toxicity), with the expectation that the SIP would soon be modified. More than ten years and two NPDES permit cycles have since passed, and no such modification has been made. (See draft Policy for Toxicity Assessment and Control, SWRCB, October 2012). Concerns about the application of mandatory minimum penalties for violations of a numeric toxicity effluent limitation have also been statutorily corrected. (See Water Code § 13385(h)(2)(i)(1)(D)). This Regional Water Board must therefore exercise its own discretion to determine whether numeric effluent limitations for chronic toxicity are feasible and appropriate at this time.</p> <p>Today, numeric limits for chronic toxicity are endorsed by USEPA. The TST statistical approach simplifies the interpretation of toxicity test results and increases confidence in the results as compared to the statistical approaches, such as NOEC-LOEC.</p> <p>Because of the availability of toxicity testing methods, and the need to include effluent limits that will achieve and maintain compliance with water quality standards, the Regional Water Board finds that numeric effluent limits for toxicity are both feasible and appropriate to protect water quality standards. The majority of the other states already utilize numeric effluent limitations for chronic (or acute) toxicity, and have done so for some time. This permit is not the first in the state to adopt a numeric effluent limitation for chronic toxicity, or to utilize the TST. (See, e.g., R9-20013-0026 (General NPDES Order for discharges from boatyards); R8-2012-0035</p>	

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			<p>(NPDES Order for Orange County Sanitation District)). The State's Ocean Plan also sets numeric limits for chronic toxicity that have been incorporated into NPDES permits as numeric effluent limitations. This Regional Water Board has already endorsed the TST and has begun implementing it in the Los Angeles MS4 permit, wastewater permits, and individual industrial stormwater permits, to fully integrate chronic toxicity testing programs and their results across the Region. A numeric chronic toxicity effluent limitation utilizing the TST was also included in NPDES permit Order No. R4-2013-0172 (NPDES permit for the University of Southern California, adopted by the Regional Water Board on November 7, 2013) and NPDES permit Order No. R4-2014-0033 (NPDES permit for the Calleguas Municipal Water District Regional Salinity Management Pipeline). On May 8, 2014, this Regional Water Board adopted NPDES permits for Simi Valley Water Quality Control Plant Order No. R4-2014-0066, Camarillo Water Reclamation Plant Order No. R4-2014-0062, and Hill Canyon Wastewater Treatment Plant Order No. R4-2014-0064 that included numeric chronic toxicity effluent limitations using the TST method." On November 6, 2014, this Regional Water Board adopted NPDES permits for Pomona and Whittier Narrows WRPs that include numeric chronic toxicity effluent limitations based on the TST statistical approach. On April 9, 2015, this Regional Water Board adopted NPDES Permits for San Jose Creek Water Reclamation Plant, Valencia Water Reclamation Plant, and Saugus Water Reclamation Plant that include numeric chronic toxicity effluent limitations based on the TST statistical approach.</p> <p>Also, the commenter cites two State Water Board orders in addition to 2003-0012 (Los Coyotes) for the proposition that State Water Board orders mandate a narrative toxicity limit for discharges from POTWs to inland surface waters (the commenter also cites 2003-0013, which was not a precedential order). WQ 2008-08 (City of Davis) and WQ 2012-001 (City of Lodi) do not control the Regional Water Board's decision to include numeric toxicity limits in this permit. Although the State Water Board did not order the Central Valley Regional Water Board to include numeric</p>	

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			effluent limitations in the two orders referenced above, in both cases, the Central Valley Regional Water Board had first concluded that numeric effluent limitations for chronic toxicity were not appropriate. The State Water Board merely upheld the decision of the Regional Water Board to not include numeric limits. In contrast, here, the Regional Water Board has determined that numeric limitations are both appropriate and feasible. Furthermore, the permits at issue in City of Davis and City of Lodi included numeric acute toxicity effluent limitations. This permit does not include a separate effluent limitation for acute toxicity.	
JOS	A-2	<p><i>The chronic toxicity requirements improperly require use of an unpromulgated test method.</i></p> <p>a) <u>The TST statistical endpoint is not a 40 Code of Federal Regulations (CFR) Part 136 promulgated method.</u></p> <p>Use of this “pass/fail” TST endpoint for compliance determination is specified in the MRP in Section V.A.5 (page E-13) and Section V.A.9. (page E-16).</p> <p>The 40 CFR Part 136 approved methods for freshwater chronic toxicity are listed in 40 CFR 136.3(a), Table 1A. The parameters specifically promulgated for freshwater whole effluent chronic toxicity and contained in Table 1A are clearly stated as the NOEC and IC25 in units of percent effluent. (The exact wording is, “Toxicity, chronic, freshwater organisms, NOEC or IC25, percent effluent.”). Use of a “pass/fail” endpoint obtained through any statistical analysis is not included in 40 CFR 136.3(a) Table 1A, and the TST statistical method is not listed in Table 1A.</p>	<p>The Order is consistent with the letter dated February 11, 2015, from USEPA to the State Water Resources Control Board (State Water Board) withdrawing approval of the alternate test procedure using a two-concentration test design. The Order requires the test methods described in <i>Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms</i> (October 2002) (EPA-821-R-02-013), including review of the concentration-response pattern.</p> <p>The State permitting authority, here, the Regional Water Board, has the discretion to select the statistical approach for analyzing WET test data that is most appropriate for use in a particular permit. (See Section 9.4.1.2 of <i>Short-term Methods</i>, October 2002, EPA-821-R-02-013 (“[T]he statistical methods recommended in the manual are not the only possible methods of statistical analysis.”)) The Regional Water Board has selected the TST statistical approach for use in this Order.</p> <p>Please see additional response to comment A-5.</p>	None necessary.
	A-2	b) <u>Use of the TST Statistical Endpoint Cannot Be Mandated over Promulgated Methods.</u>	Please see response to comment A-2(a) and A-2(c).	None necessary.

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	A-2	c) <u>EPA Guidance cannot Overrule Promulgated Regulations.</u>	<p>The commenter notes that USEPA's 2010 publication regarding the TST statistical analysis is guidance and not regulation. Similarly, USEPA's published materials on the point-estimate technique and NOEC-LOEC hypothesis testing methods are guidance and not required statistical approaches. The 2002 Chronic Toxicity Testing Method clarifies that the "statistical methods recommended in this manual are not the only possible methods of statistical analysis ... there are other reasonable and defensible methods of statistical analysis for this kind of toxicity data." (Chronic WET Testing, October 2002, 9.4.1.2.) Contrary to the commenter's allegation, the Regional Water Board does not consider itself bound by USEPA's 2010 publication. The permitting authority has the discretion in this circumstance to select the means of statistical analysis that is most appropriate for the particular permit to be required for compliance and reporting purposes. (See 40 CFR §§ 122.44(d) and 122.43.)</p> <p>Please see additional response to comment A-5.</p>	None necessary.
JOS	A-3	<p><i>The Tentative Permit specifically disallows application of the method-required PMSD criteria.</i></p> <p>Section VII.J. of the Tentative Permit (page 25 of the WDR) states:</p> <p>"As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the NOEC and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results."</p> <p>The audit directives referred to in the Tentative Permit</p>	<p>In USEPA's comment letter to this tentative permit, dated May 4, 2015, USEPA's position is that applying its 2000 concentration-response pattern review guidance and/or inapplicable NOEC/LOEC variability criteria (i.e., PMSDs) to the TST – an unrelated statistical approach – prior to reporting compliance will undercut the transparency of the reported toxicity result, shroud a potentially non-compliant result prior to reporting, and diminish the reliability and enforceability of the permit and its toxicity limits.</p> <p>The preamble to the WET Test Method (Federal Register/ Vol. 67, No. 223, p. 69952 (November 19, 2002)) provides valuable insight into what USEPA intended when it was updating its WET Test Method. From the underlined language below, it is clear that the PMSD was only intended for permits that had limits in terms of NOEC or LOEC.</p>	None necessary.

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		<p>related to application of PMSD criteria to tests conducted using a two-concentration test design and did not specifically address use of PMSD in relation to the TST endpoint. The Tentative Permit requires that a minimum of five concentrations and control be conducted for all final effluent chronic toxicity tests.</p> <p>Additionally, the promulgated method specifically states (Section 10.2.8.2 on page 51)):</p> <p>“When NPDES permits require sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, or 1003.0 (e.g., growth or reproduction NOECs and LOECs), within-test variability must be reviewed and variability criteria must be applied as described in this section (10.2.8.2).”</p> <p>For the purposes of evaluating within-test variability, the promulgated method [Exhibit 4] and USEPA guidance [Exhibit 8] consistently rely on use of the PMSD as a metric for conducting such an evaluation. A higher PMSD is equivalent to greater within-test variability while a lower PMSD is indicative of tests exhibiting lower within-test variability. Section 10.2.8.2 referred to in the method describes mandatory criteria using the PMSD for interpreting and validating sublethal hypothesis test results using the PMSD metric. As quoted above, the promulgated method clearly indicates that application of these PMSD criteria <u>must</u> be conducted for any NPDES tests when sublethal hypothesis testing is conducted. The TST is a hypothesis test conducted on the sublethal endpoint and as such, must be subjected to application of the PMSD criteria described in the method. The requirement in the Tentative Permit to exclude evaluation of within-test variability is inconsistent and contradictory to specific requirements contained in the promulgated method.</p>	<p>“Variability Criteria</p> <p>Today's action incorporates mandatory variability criteria for five chronic test methods. EPA recommends the use of point estimation techniques over hypothesis testing approaches for calculating endpoints for effluent toxicity tests under the NPDES Permitting Program. <u>However, to reduce the within-test variability and to increase statistical sensitivity when test endpoints are expressed using hypothesis testing rather than the preferred point estimation techniques, variability criteria must be applied as a test review step when NPDES permits require sublethal hypothesis testing endpoints (i.e., no observed effect concentration (NOEC) or lowest observed effect concentration (LOEC) and the effluent has been determined to have no toxicity at the permitted receiving water concentration. These variability criteria must be applied for the following methods: Fathead minnow Larval Survival and Growth Test: Selenastrum capricornutum Growth Test:Mysidopsis bahia Survival, Growth and Fecundity Test: and Inland Silverside Larval Survival and Growth Test. Within test variability, measured as the percent minimum significant difference (PMSD), must be calculated and compared to upper bounds established for test PMSDs...</u>” (p. 69957)</p> <p>It is reasonable and appropriate for the Regional Board to conclude that the PMSD tool for evaluating test variability is not applicable to this permit because it does not include chronic toxicity limits expressed as TUC or NOEC.</p> <p>While section 10.2.8.2 of the WET Test Method specifies that</p>	

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			<p>“When NPDES permits require sublethal hypothesis testing endpoints from Methods 1000.0, 1002.0, or 1003.0 (e.g., growth or reproduction NOECs and LOECs), <i>within-test variability must be reviewed and variability criteria must be applied</i> as described in this section (10.2.8.2)” (emphasis added), the WET Test Method section does not require the use of the PMSD. Subsection 10.2.8.2.1 describes how to calculate the PMSD and subsequent subsections describe how to compare the PMSD to see if the PMSD falls within an acceptable range; i.e. if PMSD is within the upper and lower bounds.</p> <p>Subsection 10.2.8.3 states:</p> <p>“To assist in reviewing within-test variability, <i>EPA recommends maintaining control charts of PMSDs</i> calculated for successive effluent tests (USEPA, 2000b). A control chart of PMSD values characterizes the range of variability observed within a given laboratory, and allows comparison of individual test PMSDs with the laboratory’s typical range of variability. <i>Control charts of other variability and test performance measures</i>, such as the MSD, <i>standard deviation or CV of control responses</i>, or average control response, also may be useful for reviewing tests and minimizing variability. The log of PMSD will provide an approximately normal variate useful for control charting.” (emphasis added)</p> <p>USEPA recommends use of PMSD when the hypothesis test has endpoints expressed in terms of growth or reproduction NOECs and LOECs. However, the Los Coyotes WRP permit does not have endpoints expressed as NOEC/LOC, but in terms of Pass or Fail and Percent Effect. In addition, under this permit, within-test variability of the WET test data utilized for the TST statistics will be reviewed and variability criteria will be applied by using control charts and coefficient of variation, as allowed by Subsection 10.2.8.3 of the WET Test</p>	

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			<p>Method.</p> <p>Therefore, the permit disallows the PMSD approach to evaluate variability of the WET test data because that approach is applicable to the NOEC/LOEC statistical analysis and not the TST statistics required by the permit.</p>	
JOS	A-4	<i>The Tentative Permit places inappropriate restrictions on the ability of the Permittee to conduct scientifically defensible concentration-response relationship evaluations as mandated by the promulgated method.</i>	<p>Please see response to comment A-3 and A-5.</p> <p>USEPA's Method Guidance addressing concentration-response evaluations, states that an "evaluation of the concentration-response relationship generated for each sample is an important part of the data review process that should not be overlooked." This guidance was promulgated in 2002, well before development of the TST statistical approach. The guidance assumes that either NOEC-LOEC hypothesis testing or a point estimation analysis will be used to evaluate multi-concentration WET test data. In that circumstance, evaluation of the concentration-response relationship is important to determine whether the assumptions underlying these statistical approaches are reflected in the data. As previously discussed, these same assumptions are not relied upon by the TST statistical approach. A WET test is validated by reviewing the test acceptability criteria and quality assurance/quality control (QA/QC) measures, such as:</p> <ul style="list-style-type: none"> • Performing and evaluating reference toxicant tests. • Evaluating various test condition components, such as water quality measurements (temperature, pH, DO, light intensity, etc.) to ensure that they are within the typically accepted range. • Examining effluent sampling and handling. • Plotting control charts to track the lab's control performance and reference toxicant performance over time. 	None necessary.
JOS	A-5	<i>Limiting full application of available concentration-response evaluation tools reduces the reliability of WET Tests.</i>	The Order is consistent with the letter dated February 11, 2015, from USEPA to the State Water Board withdrawing approval of the alternate test procedure using a two-concentration test design. The Order requires the test	None necessary.

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			<p>methods described in <i>Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms</i> (October 2002) (EPA-821-R-02-013), including a multi-concentration test design, when required, and review of the concentration-response pattern.</p> <p>The State permitting authority, here, the Regional Water Board, has the discretion to select the statistical approach for analyzing WET test data that is most appropriate for use in a particular permit. (See Section 9.4.1.2 of <i>Short-term Methods</i>, October 2002, EPA-821-R-02-013 (“[T]he statistical methods recommended in the manual are not the only possible methods of statistical analysis.”)) The Regional Water Board has selected the TST statistical approach for use in this Order.</p> <p>The Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR part 136), July 2000, identifies common patterns of WET test data and provides guidance on using the concentration-response relationship to review WET test results. Some of these response patterns were identified as requiring further review if a toxic result is obtained depending on the statistical approach used. Since the statistical approach is based on assumptions concerning the data set, if the concentration response pattern of the data set does not comply with those assumptions, then the calculated NOEC/LOEC endpoints may not be valid. But these anomalous results would not occur with the TST statistical approach because the results of the instream waste concentration are compared directly to the control, and do not rely upon the same statistical assumptions as the NOEC-LOEC hypothesis testing and point estimation approaches. The TST statistical approach will produce reliable results in these circumstances.</p> <p>The remaining concentration-response patterns identified in the guidance as warranting further review suggested evaluation of factors such as test acceptance criteria, test conditions, and reference toxicant testing. These factors can and should be evaluated and are accounted for in the draft permit. Evaluation of these factors and application of the TST</p>	

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			<p>approach, which accounts for the inherent variability in WET test data, will produce reliable test outcomes for purposes of permit compliance.</p> <p>USEPA's Variability Study referenced by the commenter appropriately applied the concentration-response relationship guidance to data analyzed with the NOEC-LOEC hypothesis testing and point estimation approaches to reduce the false positive error rate. Consideration of the concentration-response relationship is not necessary when analyzing WET test data using the TST approach, and would not be expected to reduce the error rate. Instead, evaluation of test acceptance criteria, test conditions, and reference toxicant testing are appropriate to identify anomalous data prior to analysis using the TST approach.</p> <p>The TST statistical approach for use in the statistical analysis of WET test data has undergone an extensive external peer review process by both the USEPA and the State Water Board. The approach was published in <i>Environmental Toxicology and Chemistry</i> (Denton et al. 2011). Data from over 2,000 WET tests were used to develop and evaluate the TST approach. The TST was tested for nine different WET test methods with 12 biological endpoints (e.g., reproduction, growth, survival) representing most, if not all of the different types of WET test designs currently in use. Over one million computer simulations were also used to select error rates meeting EPA's RMDs (Regulatory Management Decisions) for the TST approach.</p> <p>The TST statistical approach has been shown to perform as well or better than the NOEC-LOEC statistical analysis of multi-concentration data. The results of TST statistical analysis was compared to analysis using the NOEC-LOEC approach in a "Test Drive Analysis" conducted in California. The results of the test drive are provided in a report dated December, 2011 and published in <i>Environmental Toxicology and Chemistry</i> (Diamond et al. 2013) The findings of the peer-reviewed journal article by Diamond et al, 2013, found that the TST statistical analysis improves understanding of the discharge condition by correctly identifying toxic and non-toxic</p>	

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			<p>samples more often than when using the NOEC-LOEC statistical approach.</p> <p>Please see additional response to comments A-4 and A-11.</p>	
JOS	A-6	<i>A maximum daily effluent limit for chronic toxicity is impracticable, unlawful, and inappropriate.</i>	<p>In January 2010, USEPA prepared a document titled, “<i>EPA Regions 8, 9 and 10 Toxicity Training Tool</i>,” which provides interpretation on the permit limit expression for chronic toxicity. This document was designed to assist permit writers in the interpretation of the existing EPA guidelines, regulations and methodology. The document acknowledges that NPDES regulations at 40 CFR 122.45(d) require that all permit limits be expressed, unless impracticable, as an Average Weekly Effluent Limitation (AWEL) and an Average Monthly Effluent Limitation (AMEL) for POTWs. Following section 5.2.3 of the Technical Support Document (TSD), the use of an AWEL is not typically appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing an MDEL for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for multiple reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of water quality standards. In this case, use of an AWEL is impracticable to protect water quality standards. An average weekly requirement comprising up to seven daily samples could average out daily peak toxic concentrations for WET and therefore, the discharge’s potential for causing acute and chronic effects would be missed. Furthermore, the results of the TSD approach are expressed as Pass/Fail and therefore are not subject to averaging. An average weekly limit is therefore impracticable.</p> <p>In addition, the acute toxicity limitation that existed in the 2007 NPDES Order to account for acute effects was not included in the 2015 tentative Order because the chronic toxicity limitation is more stringent. The maximum daily effluent limit is intended to protect the aquatic life beneficial uses from survival and sublethal effects that may not be detected by an average weekly limitation. If the chronic toxicity maximum daily effluent limit is removed from the tentative, then a final effluent</p>	None necessary.

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			<p>limitation for acute toxicity would need to be added to the 2015 Revised Tentative Order to protect the water quality standard as well as corresponding effluent and receiving water monitoring for acute toxicity. Additionally, this approach would not protect against high magnitude sublethal effects in a chronic test; meaning it would not be protective of both acute and chronic effects.</p> <p>Compliance with the Monthly Median Effluent Limitation (MMEL) considers up to three samples. To be out of compliance with the MMEL, at least two of three samples must have resulted in a "Fail." The MDEL is based on an initial sample event with samples collected days later for renewal. The renewal is required due to the biological testing and the length of time of the test. To prevent an erroneous toxic classification based on this "single" event, the maximum biological effect allowed under the MDEL is 50%, or double the otherwise applied regulatory threshold of a 25% effect. Mandatory Minimum Penalties do not apply to violations of either of these limits, so any penalty is within the discretion of the Board.</p>	
JOS	A-7	<p><i>Implementation of final effluent limits should not be based in whole, or in part, on non-peer reviewed documents.</i></p> <p>Footnote 6 on page 7 of the WDR and footnote 8 on page F-40 of the Fact Sheet references use of EPA Regions 8, 9 and 10 Toxicity Training Tool for implementing the final effluent toxicity limits. Page 6 of this Training Tool document clearly states that "this training tool does not impose legally binding requirements on EPA, States, or NPDES permittees" and that the Training Tool "does not substitute for the Clean Water Act, or EPA or State regulations applicable to NPDES permits or WET testing; nor is this document a regulation, itself". However, for all practical purposes, incorporation of this document into an NPDES permit will result in the document essentially becoming a binding requirement and regulation. Therefore, all references to</p>	<p>Consistent with the NPDES permit for the (Pomona, Whittier Narrows), and San Jose WRPs, that was adopted by this Regional Water Board in November 2014 and April 9, 2015, respectively, the Los Coyotes WRP permit references the document titled, "EPA Regions 8, 9 and 10 Toxicity Training Tool." This document, which was prepared by USEPA in January 2010, provides interpretation on the permit limit expression for chronic toxicity and was designed to assist permit writers in the interpretation of the existing USEPA guidelines, regulations and methodology. Since it was utilized by staff in the preparation of the Los Coyotes WRP tentative NPDES permit, it is referenced in the Order. There is no reason to remove reference to it in the permit.</p>	None necessary.

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		implementing final effluent toxicity limits in accordance with the Training Tool should be deleted.		
JOS	A-8	<i>The Permittee should not be required to conduct routine toxicity compliance monitoring and should not be liable for continued MMEL and MDEL WET violations after triggering accelerated testing and initiation of the TRE.</i>	<p>The intent of the TIE/TRE is to identify the source/cause of toxicity and to reduce it, not to suspend compliance requirements. Additionally, the public has a right to know if the effluent that is being discharged continues to be toxic, particularly as most of our inland waters are primarily comprised of POTW effluents, subjecting aquatic life to whatever level of toxicity is being discharged. These tests should not be suspended while accelerated monitoring and TIE/TREs are underway. Also, it is inappropriate to suspend final effluent limitations without a compliance schedule or time schedule order, as water quality standards must be maintained throughout the permit term. As illustrated in the example below, the current trigger/accelerated testing regime used in the 2007 NPDES permit has not been adequate to reduce toxicity in the effluent and protect water quality.</p> <p>Toxicity is pollution that is caused by toxic pollutants (or toxicants). TIE/TREs may be the best approach to identify the particular toxicant causing toxic effects, but as a matter of practice, TIE/TREs are often not implemented successfully by permittees to identify and reduce toxicity in the effluent. None of the chronic toxicity tests, accelerated monitoring schedules, or TIE/TREs conducted by the Permittee successfully identified the causative toxicant. This permit reflects a shift in regulatory approach away from the previous oversight-driven model for reducing toxicity, to holding dischargers directly accountable for meeting and maintaining effluent limitations to protect the water quality standard.</p> <p>The Regional Water Board has no basis to anticipate the substance of the yet to be developed statewide toxicity policy. A revised draft policy has not yet been released to the public or circulated to Regional Water Board staff. Furthermore, it is inappropriate for the Regional Water Board to base permitting decisions on draft policy terms.</p> <p>The individual TST test result for routine compliance monitoring is indistinguishable from the control and the 100%</p>	None necessary.

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			<p>sample testing of the accelerated chronic toxicity testing. Although the regulatory compliance of the TST is based on the Monthly Median Effluent Limit (MMEL) and can include up to 3 tests, the procedure for the accelerated testing includes four tests over an eight week period. If any one of the accelerated tests results in a "Fail", the TIE/TRE process is triggered. As noted in the permit, if the monthly median result is a "Fail", the effluent has exceeded the chronic numeric effluent limitation and is out of compliance for that month. Multi-concentration testing is required during the accelerated testing to provide information about the magnitude of the toxic event (reported using the EC25) to prepare for the TIE/TRE process that would follow if one of the four accelerated test results was a "Fail." The purpose of the accelerated testing is to determine if the toxicity is persistent in the effluent. Only after establishing that it is persistent would the TIE/TRE need to be initiated. The Permittee has the option of conducting the tests independently. In the hypothetical situation posed by the permittee where an exceedance of the toxicity MMEL would occur in a month that follows the initiation of accelerated testing, the Discharger would not be required to initiate a parallel separate set of accelerated testing. The Discharger would stay the course, complete the set of accelerated testing that was already initiated, and if triggered, then proceed with a TIE/TRE.</p>	
JOS	A-9	<p><i>USEPA's objections were misplaced and should have been ignored.</i></p> <p>a) <u>The Whittier Narrows and Pomona WRP pre-public notice draft permits contained a valid and enforceable chronic toxicity effluent limitation.</u></p> <p>b) <u>The proposed narrative effluent limits and supplemental numeric triggers in the pre-notice draft Pomona and Whittier Narrows WRP NPDES permits, as well as those contained in the 2007 Los Coyotes WRP NPDES permit, were consistent with binding State Water Board precedent.</u></p>	<p>The Pomona and Whittier Narrows pre-public notice draft permits did not contain a valid chronic toxicity effluent limitation as required by the Clean Water Act.</p> <p>Whole effluent toxicity (whether chronic or acute) is the aggregate toxic effect of an effluent measured directly by an aquatic toxicity test. Because it is both measured and <i>defined</i> by the WET test, it is a method-defined analyte. (<i>Edison Elec. Institute v. USEPA</i>, 391 F.3d 1267, 1270 (D.C. Cir. 2004); 40 CFR § 136.6(a)(5))</p> <p>An effluent limitation for whole effluent toxicity must be stated in terms of the results of a whole effluent toxicity test, by definition. The Clean Water Act defines "effluent limitation" broadly, as "any restriction ... on the quantities, rates and</p>	None necessary.

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		<p>c) <u>USEPA's statements regarding the need for numeric limits are mistaken.</u></p> <p>d) <u>Binding case law goes against USEPA's interpretations.</u></p> <p>i) <u>Section 122.44(k)(3) does not apply where the permit contains WQBELs.</u></p> <p>USEPA regulations at 40 CFR 122.44(k)(3) relate to the use of BMPs <i>in lieu of numeric effluent limitations</i>. This section is not discussing or authorizing narrative effluent limitations; it is authorizing BMPs. In this case, as discussed above, the permits contain valid narrative effluent limitations for chronic toxicity so 40 CFR 122.44(k)(3) is not applicable.</p> <p>ii) <u>If Section 122.44(k) applies, there is no requirement that numeric effluent limitations be infeasible to calculate.</u></p> <p>iii) <u>The State Water Board has held that numeric limits for chronic toxicity are not feasible or appropriate.</u></p> <p>e) <u>USEPA ignores the existence of 40 CFR 122.44(k)(4).</u></p>	<p>concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters ... including schedules of compliance." (CWA § 502(11).) But a narrative toxicity "limit" fails to answer the question of how "no chronic toxicity" is to be translated into particular test results. The narrative prohibition is not a valid effluent limitation under the Clean Water Act because it is inoperable and does not function as a restriction on the discharge. The narrative prohibition is insufficient to achieve and maintain the water quality standard in the receiving water because it is not a limit that can be measured or enforced.</p> <p>The Clean Water Act and its implementing regulations also require that effluent limitations be expressed numerically unless a numeric limit is not feasible. Because numeric limits for whole effluent toxicity expressed in terms of the whole effluent toxicity test are feasible for the discharges from the Pomona and Whittier Narrows WTPs, numeric limits are required. Likewise, because numeric limits for whole effluent toxicity expressed in terms of the whole effluent toxicity test are feasible for the discharges from the Los Coyotes WRP, numeric limits are required and are included in the permit.</p> <p>Regulations implementing the Clean Water Act establish a strong presumption that effluent limitations will be numeric. For example, the regulations assume that effluent limitations will generally be capable of expression as averages or mass (see 40 C.F.R. § 122.45(d) (requiring all permit effluent limitations for continuous discharges from POTWs, "shall unless impracticable be stated as ... average weekly and average monthly discharge limitations); 40 C.F.R. § 122.45(f) ("All pollutants limited in permits shall have limitations, standards, or prohibitions expressed in terms of mass ...).)</p> <p>40 C.F.R. § 122.44(k)(3) requires non-numeric effluent limitations in the form of best management practices (BMPs) if numeric effluent limitations are infeasible. The necessary implication from this provision is that numeric effluent limitations are always required, if feasible (in which case, best management practices are merely optional elements of the permit). The only alternate reading of this provision would</p>	

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			<p>conclude that in cases where numeric limitations are feasible but not actually incorporated into a particular permit, BMPs are not necessary. This reading is illogical.</p> <p>Courts have recognized that the CWA allows non-numeric effluent limitations instead of numeric limits in those instances where numeric limits are infeasible. "When numerical effluent limitations are infeasible, USEPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels." (<i>NRDC v. Costle</i>, 568 F.2d 1369, 1380 (D.C. Cir. 1977); <i>see also</i>, <i>Citizens Coal Council v. EPA</i>, 447 F.3d 879, 895-96 (6th Cir. 2006) (upholding EPA's coal remaining effluent limitation guidelines that incorporate BMPs where numeric effluent limitations are not feasible).)</p> <p>Stormwater discharges are the most common circumstance in which numeric limits are found to be infeasible, given the intermittent and variable nature of stormwater discharges and the lack of necessary data on which to base numeric limits. But the examples are few outside of the stormwater context, such as drainage from coal remaining and placer mining operations, and certain vessel discharges. [67 Fed. Reg. 3370-01; 61 Fed. Reg. 3403-02; 73 Fed. Reg. 34296-01.]</p> <p>This Regional Water Board has determined that numeric effluent limitations for chronic toxicity are feasible for discharges from Los Coyotes WRP. Please see response to comment A-1 for information regarding other examples in which numeric effluent limitations for chronic toxicity have been found feasible and have been implemented.</p>	
JOS	A-10	<i>Numeric effluent limitations for chronic toxicity remain inappropriate.</i>	<p>The permit includes numeric chronic toxicity effluent limitations because the effluent data showed that there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of the water quality standard.</p> <p>The narrative toxicity effluent limits with prescriptive accelerated monitoring and toxicity reduction evaluation triggers that have been used in NPDES permits in this Region have not adequately addressed how to achieve and maintain compliance with the water quality standard for chronic toxicity</p>	None necessary

Commenter	#	Comment	Response	Action Taken
			<p>in the San Gabriel River and its tributaries.</p> <p>Numeric toxicity effluent limitations are an efficient regulatory tool because the measurement of compliance is clearly defined. Because of the availability of toxicity testing methods and applicable USEPA guidance endorsing these methods, the Regional Water Board finds that numeric effluent limits for toxicity are both feasible and appropriate to protect water quality standards.</p> <p>The Regional Water Board agrees that an important step to achieving compliance with a Whole Effluent Toxicity (WET) water quality standard is a toxicity reduction evaluation to identify the constituents of concern. But a numeric effluent limit will prompt proactive efforts by permittees to comply with the limitation and address toxicity in advance of violations that may impact aquatic life. This Order also requires the discharger to conduct the Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) process if the numeric effluent limit is exceeded.</p> <p>USEPA's decision to include the WET testing methods as approved test methods under 40 CFR Part 136 was upheld by the United States Court of Appeals for the D.C. Circuit in <i>Edison Electric Institute v. USEPA</i>, 391 F.3d 1267 (2004) (<i>Edison Electric</i>). The Court found that "[i]n designing and refining the WET test methods, EPA sought to minimize the effect of organic idiosyncrasy by taking experimental and statistical precautions... WET test methods exhibit a degree of precision compatible with numerous chemical-specific tests already in use." (<i>Id.</i> at 1269 & 1271.) With respect to the representativeness of WET test methods, that is, the ability of test results to predict instream effects accurately, the Court concluded that studies on the subject "support the representativeness of the WET test methods in general, and several [studies] demonstrate representativeness with regard to particular Western waters." (<i>Id.</i> at 1273.)</p> <p>The TST statistical approach for use in the statistical analysis of WET test data was peer reviewed by the State of California. Additionally, the TST approach was also published in <i>Environmental Toxicology and Chemistry</i> (Denton et al. 2011),</p>	

Commenter	#	Comment	Response	Action Taken
			undergoing review by anonymous reviewers. Data from over 2,000 WET tests were used to develop and evaluate the TST approach. The TST was tested for nine different WET test methods with 12 biological endpoints (e.g., reproduction, growth, survival) representing most, if not all of the different types of WET test designs currently in use. Over one million computer simulations were also used to select error rates meeting EPA's RMDs (Regulatory Management Decisions) for the TST approach. In addition, the State Water Resources Control Board conducted a test drive analysis of the TST as compared to the current NOEC approach, and reported the results in a report dated December, 2011 and published in <i>Environmental Toxicology and Chemistry</i> (Diamond et al. 2013), undergoing review by anonymous reviewers. Please see additional response to Comment A-9.	
JOS	A-11	<i>Numeric limits based on the TST are highly problematic.</i>	<p>The TST statistical approach is desirable over the status quo. In the executive summary (at page vii, <i>Exhibit 3 page 426 of 1898</i>) of USEPA's <i>NPDES Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 10)</i>, USEPA states that "The traditional hypothesis testing approach under EPA's TSD is still considered valid as applied; however, that approach can now be advanced through the TST approach by providing new incentives to permittees to provide valid, high quality WET data."</p> <p>Section 1.2 of USEPA's <i>NPDES Test of Significant Toxicity Implementation Document-June 2010</i> explains that "the current NPDES WET Program does not control for false negatives. Thus, the TST approach allows permitting authorities to minimize the occurrence of false negatives (i.e., declaring the IWC non-toxic when it is actually exhibiting unacceptable toxicity), while also minimizing the occurrence of false positives (i.e., declaring the IWC toxic when it is actually acceptable). The TST approach has the added advantage of providing permittees with a clear incentive to improve the precision of test results (e.g., decrease within-test variability and/or use more replicates within a WET test than the minimum required in the EPA WET test method) to reach a definitive conclusion as to whether unacceptable toxicity is</p>	None necessary.

Commenter	#	Comment	Response	Action Taken
		<p>Regional Board staff relied heavily on the results of the State Water Board “Test Drive” study in an attempt to demonstrate that use of the TST statistical endpoint is equivalent to or superior to the NOEC. In testimony at the adoption hearings for recent NPDES permits, Regional Board staff made several statements regarding the findings of this study that were inaccurate, unfounded, and/or oversimplifications.</p>	<p>observed in a test. Thus, using the TST approach, a permittee can in fact <i>prove a negative</i>, i.e., that their effluent is acceptable (non-toxic).”</p> <p>Subsequent to the November 16, 2010 workshop on the State Water Board’s draft Toxicity Policy, the State Water Board recommended conducting a “test drive” to compare results obtained using the Test of Significant Toxicity (TST) statistical approach developed by the USEPA for analyzing whole effluent (WET) and ambient toxicity data with results obtained using the standard WET No Observed Effect Concentration (NOEC) statistical approach. The “test drive” had two specific objectives: (1) evaluate and compare resulting interpretations of WET data analyzed using TST and NOEC statistical approaches and (2) determine how many (if any) additional within-test replicates for the control and instream waste concentration (IWC) would be needed to declare samples non-toxic that were initially identified as toxic using TST with a mean effect less than the TST regulatory management decision .The TST Regulatory Management Decision (RMD) was defined for the “test drive” as follows: (1) the sample is declared toxic if there is greater than or equal to a 25% effect in chronic tests or is greater than or equal to 20% effect in acute tests at the permitted instream waste concentration (referred to as the toxic RMD) and (2) the sample is declared non-toxic if there is less than or equal to 10% effect at the IWC in acute or chronic tests (referred to as the non-toxic RMD). The terms “truly toxic” and “truly non-toxic” used in the test drive final report refer to the Regulatory Management Decisions as defined above, not to the “true” or “actual” toxicity of the sample, as suggested by the commenter. The RMD definition is appropriate for the purposes of the test drive, since it represents the regulatory standard used to identify toxic and non-toxic samples for compliance and other purposes.</p> <p>The “test drive” demonstrated that the TST and NOEC statistical approaches yielded the same answer as to whether the sample is toxic or not approximately 90% of the time, both for effluent samples and receiving water samples. The “test</p>	

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		<p>The conclusion in the Edison Electric case was based on the results of an inter-laboratory variability study conducted by USEPA that evaluated the frequency of identifying toxicity in non-toxic blank samples using the NOEC and EC/IC25. The court upheld the challenged NOEC and EC/IC25 methods because USEPA had provided adequate safeguards within those methods to protect against the concerns raised by the plaintiffs. Two of these safeguards are the requirements to use a multiple-concentration test that includes a concentration-response evaluation and application of the PMSD criteria. The court specifically stated, "EPA also offered an additional safeguard by designing the tests to give permittees the benefit of the doubt, limiting false positive rates to at most 5%, while allowing false negative rates up to 20%." These safeguards have been removed or significantly restricted in this Tentative Permit.</p> <p>In conclusion, for all the reasons cited in herein, the effluent limits for chronic toxicity in Table 4 of the</p>	<p>drive" also showed that the TST and NOEC approaches had similar false positive rates (i.e., erroneously designating a non-toxic RMD as a toxic RMD), which appeared to be less than 5% overall. However, the "test drive" demonstrated that the TST approach was superior to the NOEC approach by nearly eliminating false negatives (i.e., erroneously designating a toxic RMD as a non-toxic RMD). The TST approach thus benefits regulators by almost never missing toxicity when it is present (as defined by the RMD), compared to the NOEC approach which appeared to miss toxicity approximately 10% of the time overall.</p> <p>In addition, the "test drive" showed that in the few cases where the TST approach designated toxicity at effects less than 25% in chronic tests, this was due to high variability between replicates in the controls and/or IWC treatments. Addition of a minimal number of replicates to these tests usually resulted in the sample being declared non-toxic using the TST procedure.</p> <p>USEPA's decision to include the WET testing methods as approved test methods under 40 CFR Part 136 was upheld by the United States Court of Appeals for the D.C. Circuit in <i>Edison Electric Institute v. USEPA</i>, 391 F.3d 1267 (2004) (<i>Edison Electric</i>). The Court found that "[i]n designing and refining the WET test methods, EPA sought to minimize the effect of organic idiosyncrasy by taking experimental and statistical precautions... WET test methods exhibit a degree of precision compatible with numerous chemical-specific tests already in use." (<i>Id.</i> at 1269 & 1271.) With respect to the representativeness of WET test methods, that is, the ability of test results to predict instream effects accurately, the Court concluded that studies on the subject "support the representativeness of the WET test methods in general, and several [studies] demonstrate representativeness with regard to particular Western waters." (<i>Id.</i> at 1273.)</p> <p>The TST statistical approach for use in the statistical analysis of WET test data was peer reviewed by the State of California. Additionally, the TST approach was also published in</p>	

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		Tentative Permit should be changed back to the narrative effluent limitation contained in the last permit with a numeric trigger for additional investigations (e.g., TIE/TRE). No authority exists for mandating numeric chronic toxicity effluent limitations and particularly not limits of "Pass", or "% effect <50" using a non-Part 136 promulgated method. Furthermore, as stated above, the inclusion of numeric chronic toxicity effluent limitations violates the current binding precedent from State Water Board Order Nos. WQO 2003-0012 and WQO 2003-0013, applicable to the Los Coyotes WRP.	<p><i>Environmental Toxicology and Chemistry</i> (Denton et al. 2011), undergoing review by anonymous reviewers. Data from over 2,000 WET tests were used to develop and evaluate the TST approach. The TST was tested for nine different WET test methods with 12 biological endpoints (e.g., reproduction, growth, survival) representing most, if not all of the different types of WET test designs currently in use. Over one million computer simulations were also used to select error rates meeting EPA's RMDs (Regulatory Management Decisions) for the TST approach. In addition, the State Water Resources Control Board conducted a test drive analysis of the TST as compared to the current NOEC approach, and reported the results in a report dated December, 2011 and published in <i>Environmental Toxicology and Chemistry</i> (Diamond et al. 2013), undergoing review by anonymous reviewers.</p> <p>Please see additional response to comments A-5 and A-10.</p>	
Comments received from Heal the Bay May 4, 2015				
Heal the Bay	1	<p>We support the Regional Board's inclusion of numeric chronic toxicity effluent limits in the Permit as it is critical for NPDES permittees to ensure that their discharge does not have toxic impacts. Furthermore, we support the inclusion of the Test of Significant Toxicity ("TST") approach in the Permit.</p> <p>The language in the Permit complies with narrative water quality standards for toxicity in the Basin Plan. In addition, excluding numeric chronic toxicity limits from the Permit would be inconsistent with recent NPDES permits adopted by this Board. Toxicity testing is the "safety net" to identify toxic impacts to aquatic life - it is important that all future NPDES permits include steadfast and enforceable numeric chronic toxicity limits.</p>	Thank you for your comment in support of this permit.	None necessary.

Commenter	#	Comment	Response	Action Taken
Comments received from United States Environmental Protection Agency (USEPA) on May 4, 2015				
USEPA	1	<p>USEPA strongly support adoption of the chronic toxicity requirements in this permit.</p> <p>USEPA is pleased that the subject draft permits incorporate WQBELs implementing applicable TMDLs critical for protecting water quality standards for the San Gabriel River.</p> <p>USEPA is pleased that the draft permits plainly require effluent limits on chronic whole effluent toxicity (WET), where there is reasonable potential.</p> <p>USEPA agrees with the Regional Water Board's decision to use numeric chronic WET WQBELs for these POTW permits, which are feasible to calculate for the discharge. USEPA supports the inclusion of both monthly and daily WQBELs for chronic toxicity, as the Regional Water Board has determined that such limits are necessary to protect against highly toxic short-term peaks of acute or chronic toxicity that exceed the applicable toxicity water quality standard.</p> <p>USEPA commented that the draft permits are consistent with the nine POTW permits this Board has adopted over the past 12 months, which express both monthly and daily chronic toxicity WQBELs numerically.</p> <p>USEPA strongly support Order section VII.J and associated fact sheet language. This provision specifies compliance evaluation and reporting requirements for chronic toxicity data expressed in terms of the TST and assures compliance with the multi-concentration test design requirement for NPDES effluents found in EPA's 2002 toxicity test methods. Also, it assures that - following EPA's 2002 toxicity test methods - the concentration-response pattern will be reviewed, as appropriate.</p>	Thank you for your comment in support of this permit.	None necessary.

Commenter	#	Comment	Response	Action Taken
		<p>Also, provision VII.J takes good steps to effectively address our concern that a laboratory's Standard Operating Procedures for chronic toxicity test data analysis and review can be used to improperly disqualify a test result. It is our position that applying EPA's 2000 concentration-response pattern review guidance and/or inapplicable NOEC/LOEC variability criteria (i.e., PMSDs) to the TST – an unrelated statistical approach – prior to reporting compliance will undercut the transparency of the reported toxicity result, shroud potentially non-compliance result prior to reporting, and diminish the reliability and enforceability of the permit and its toxicity limits.</p>		